

common central mass, but the runner was easily recognized as a small bud projecting downward from the bottom of the core. In Fig. 2 the two cores are shown as they appeared in place within the bulb. The smaller core is hidden beneath the larger in the first figure (2, *a*).

The two cores were united to each other and to the bulb tissue by a common stem or stalk. The stalk of the smaller core was longer than the other, as is seen in the figure (2, *b*). This stalk, or point of union between bulb tissue and sprout or vegetative tissue is not at the point nearest to the root fibers as is the case in *Erythronium*, but is at a little distance from that point. The roots form a compact bundle of fibers at the bottom, rather than at one side of the base, of the bulb. But the runner issues in the two genera (*Erythronium* and *Tulipa*) from the bottom of the immature bulbs, when produced.

## VARIETAL AND SPECIFIC NAMES

BY T. D. A. COCKERELL

I am very glad to see (Bull. Torr. Club, May, p. 300) that Dr. Robinson has frankly discussed the important question of the status of varietal names; it is a question which has been overlooked or evaded by many botanists, with the result that the existing nomenclature is often inconsistent.

I am by no means prepared to admit, of course, that what is good in zoölogy is not also good in botany; and there are certain considerations which Dr. Robinson has apparently overlooked.

Generic and subgeneric names are expressions of arbitrarily-formed groups which have justification simply in their convenience. From a Darwinian standpoint, these groups must contain species which are not less related to one another than to species assigned to other genera or subgenera. There is to be, in fact, a natural continuity or contiguity, as with the inches on a foot-rule. But granting this, it is then a matter of taste or custom how large such divisions may be made. The subgenera of one generation or one author are often the genera of the next.

Species and subspecies, on the other hand, are units isolated by nature. It is not a matter of taste how many species exist, though one might imagine so, to read the current botanical literature. Ultimately we shall have to know how many forms stand physiologically isolated from one another, and these will be recognized as true species. Subspecies are similar, except that at some point the isolation is as yet incomplete. The word variety may as well be abandoned as a distinct category; but it is useful as a refuge when we do not know the proper status of a plant.

The "form" (*forma*) is really something different. As I understand it, it expresses a phase existing wholly within specific limits; a result of the variability of the organism, spontaneous or induced by external conditions. I thoroughly believe in the classification and naming of forms, as the study of these phenomena greatly assists us to understand the origin of species; but the form is not to be confused with the subspecies or variety proper. I think, myself, that even names given to forms should be recognized when it is found that they represent valid subspecies or species; but if there is to be a distinction made and a line drawn, surely it must be between the subspecies and form; not between the species and subspecies. This is the more necessary, because while we can usually (or at least frequently) tell when we are dealing with a form, it is much harder to draw the line between species and subspecies. The evidence for the status of the form may be simple and positive; that for the status of the species is negative, and to affirm that it *does not* anywhere intergrade with its nearest ally, would require knowledge that we rarely possess when describing.

The trouble about the homonyms results from the practice of suppressing a name because it has been used in a varietal sense under a different species of the genus. This seems to me an unnecessary and mischievous procedure, and I live in the hope that it will at length be universally condemned. The law of homonyms is at best a necessary evil, and it should be made to bear on us as lightly as possible.